



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<b>(21) International Application Number:</b> PCT/US92/07978 <b>(22) International Filing Date:</b> 25 September 1992 (25.09.92)  <b>(30) Priority data:</b> 765,776                      26 September 1991 (26.09.91) US  <b>(71) Applicant:</b> COMMUNICATIONS SATELLITE CORPORATION [US/US]; 950 L'Enfant Plaza, S.W., Washington, DC 20024 (US).  <b>(72) Inventor:</b> SHYY, Dong-Jye ; 19729 Crystal Rock Dr., Apt. 14, Germantown, MD 20874 (US).  <b>(74) Agent:</b> FOURNIER, Kevin, J.; Sughrue, Mion, Zinn, Macpeak & Seas, 2100 Pennsylvania Ave., N.W., Washington, DC 20037-3202 (US).		<b>(81) Designated States:</b> CA, JP, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE).  <b>Published</b> <i>With international search report.</i>
<b>(54) Title:</b> NONBLOCKING MULTICAST FAST PACKET/CIRCUIT SWITCHING NETWORKS  <div style="text-align: center;"> </div>		
<b>(57) Abstract</b>  <p>A self-routing nonblocking multicast switching network (Fig. 4, Fig. 5, Fig. 6, Fig. 7, or Fig. 8) routes input messages to destined addresses by examining a routing tag (Fig. 3b, Fig. 3c and Fig. 3d) combined in each message. The routing tag (Fig. 3b, Fig. 3c and Fig. 3d) has a plurality of sections (301, 302, 303, 304) each section corresponding to a level of a tree hierarchy (Fig. 3a) related to the outputs of the switching network. The network sorts the messages by examining only one section of each routing tag and routes and sorted messages to the destined addresses based on the bits contained in the routing tags.</p>		